TENNESSEE DEPARTMENT OF AGRICULTURE
Water Resources Program

May 17, 2011

Ms. Erin O'Brien
TDEC
L&C Annex, 6th Floor
Nashville, Tennessee 37243

Dear Ms. O'Brien:

I am writing to inform you that I have reviewed the application and Nutrient Management Plan (NMP) for CAFO permit for Mr. Eddie Cross, Cross Farms, in Cleveland, Tennessee (previous NPDES Permit NO. TN0078760).

This letter is to confirm that the TDA has reviewed and approved the NMP. I have enclosed a copy of the Nutrient Management Plan Requirements form and the Notice of Intent (NOI) form, Addendum to Nutrient Management Plan, Closure Plan, and stamped Approval Stamp form for your review and final approval.

Sincerely,

Angela L. Warden
CAFO Specialist

: //enclosures

ec:// Mr. Eddie Cross, Cross Farms, Cleveland, TN
Mr. Wayne Coates, District Conservationist, Bradley County, TN

Ellington Agricultural Center
440 Hogan Road
Nashville, TN 37220
Telephone: 615-837-5492 Fax: 615-837-5025

TENNESSEE DEPARTMENT OF AGRICULTURE

Water Resources Program

The following individual has submitted all required elements of an **individual NPDES permit** for a **Class I CAFO**. Their Nutrient Management Plan (or CNMP) has been reviewed and approved by this office.

Name of Owner/Operator: Eddie Cross

Operation Name: Cross Farms

Address of Operation: 313 Ed Cross Rd. Cleveland, TN 37323

Phone Number: (423) 478-6774 County: Bradley

Date application was initiated:

RECEIVED
MAY 04 2011

Date approval forwarded to TDEC:

MAY 17 2011

NMP/CNMP Approval Date:

~~THE APPROVAL SHALL NOT BE~~
CONSTRUED AS CREATING
A PRESUMPTION OF CORRECT

MAY 17 2011

OPERATION OR AS WARRANTING
THAT THE APPROVED FACILITIES
WILL REACH THE DESIGNED GOALS

Date approval received by TDEC

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TN Division Of Water
Pollution Control

TDA Reviewer's Name: Angela Warden

TDA Reviewer's Signature: Angela Warden 5/17/11
Date

Eddie Cross Cleveland, TN 5/5/11
Cross Farms

Nutrient Management Plan Requirements

Bradley Co

The following 9 items need to be submitted at the time the permit is applied for. Additional record-keeping items as outlined in the CAFO rules are also considered part of the nutrient management plan and must be kept on-site. More information on each item can be found in the CAFO rule (1200-4-5-.14).

1. **Two maps: (1.)** A map of your farm showing location of any animal barns/houses, compost bins, litter storage bins, manure lagoons/holding ponds, nearby roads, fields to which litter/manure will be applied, and non-application buffer areas around any bodies of water (streams, creeks, rivers, ponds, wells, sinkholes, springs, wetlands, etc.). A hand-drawn map is acceptable and even preferred. **(2.)** A topographic map of the farm (1:24000 scale, showing 1-mile radius from farm) showing property lines.
2. **Nutrient budget** – this is basically a balance sheet of all manure produced on the farm and all manure spread on the farm or removed from the farm. Application rates for all fields should be based on crop needs, realistic crop yield expectations, and actual manure analyses of nutrient content.
3. **Soil test results** for phosphorus and potassium for each application field. These must be taken at a minimum of every five years.
4. Results of **manure analysis** from within the past year. Annual manure testing is a requirement for all CAFOs. These results must be included with initial permit application if the farm is in operation. If the farm that is applying for the permit is new and not yet operating, then manure testing results need to be obtained once operation begins. At that point, the manure test results and revised application rates need to be submitted to TDA. Manure test results in subsequent years need to be kept as part of your record-keeping activities.

Submitted to lab prior 5/11/11

5. Results of the **Phosphorus Index** applied to each field that has a soil test P value of "High" or "Very High". In those situations, this tool will determine whether your application rates will be based on nitrogen or phosphorus.
6. Statement regarding method of **dead animal disposal**.
7. **Closure Plan** to be implemented in the event animal production ceases on the site.

These last two items are only required for medium-size CAFOs that manage **liquid manure**.

8. Documentation of **design of liquid waste handling system**. This should include, but is not limited to: volume for solids accumulation, design treatment volume, total design volume, the approximate number of days of storage capacity, pumping and routing of wastes, and any solid separation process. Ideally, this documentation would consist of the pertinent engineering drawings with accompanying descriptive narrative.
9. The construction, modification, repair, or installation of any portion of a CAFO liquid waste handling system (such as earthen holding pond, treatment lagoon, pit, sump or other earthen storage/containment structure) after April 13, 2006 must be preceded by a thorough **subsurface investigation**. This investigation will include a detailed soils investigation with special attention to the water table depth and seepage potential.

In addition to the items above, the following form(s) must accompany your application:

- ***Notice of Intent* form** must be submitted with all applications from Class II (Medium) CAFOs

OR

- **EPA Forms 1 and 2B** must be submitted with all applications from Class I (Large) CAFOs.
- **Addendum to Nutrient Management Plan**.

Tennessee Department of Environment and Conservation,
Division of Water Pollution Control
401 Church Street, 6th Floor L & C Annex, Nashville, TN 37243
(615) 532-0625

CONCENTRATED ANIMAL FEEDING OPERATION (CAFO)
STATE OPERATING PERMIT (SOP)
NOTICE OF INTENT (NOI)

Type of permit you are requesting: ☐ SOPCD0000 (designed to discharge) ☑ SOPC00000 (no discharge) ☐ Unknown, please advise

Application type: ☐ New Permit ☐ Permit Reissuance ☐ Permit Modification

If this NOI is submitted for Permit Modification or Reissuance provide the existing permit tracking number: ____

OPERATION IDENTIFICATION

Operation Name: Cross Farm's	County: Bradley
Operation Location/ Physical Address: 313 Ed Cross Rd Cleveland TN 37323	Latitude: 35° 12' 55.64" N Longitude: 35° 1' 47.86" W
Name and distance to nearest receiving water(s): Red Hill Branch	
If any other State or Federal Water/Wastewater Permits have been obtained for this site, list those permit numbers: Class CAFO Permit	
Animal Type: ☑ Poultry ☐ Swine ☐ Dairy ☐ Beef ☐ Other ____	
Number of Animals: 280,000 / Number of Barns: 6 / Name of Integrator: Pilgrims Pride	
Type of Animal Waste Management (check all that apply): ☑ Dry ☐ Liquid ☐ Liquid, Closed System (i.e. covered tank, under barn pit, etc.)	
Attach the NMP ☑ NMP Attached / Attach the closure plan ☐ Closure Plan Attached / Attach a topographic map ☑ Map Attached	

PERMITTEE IDENTIFICATION

Official Contact (applicant): Eddie Cross	Title or Position: Owner & Operator			
Mailing Address: 313 Ed Cross Rd	City: Cleveland	State: TN	Zip: 37323	☑ Correspondence ☐ Invoice
Phone number(s): 423-479-6774	E-mail: freetobemced@gmail.com			
Optional Contact:	Title or Position:			
Address:	City:	State:	Zip:	☐ Correspondence ☐ Invoice
Phone number(s):	E-mail:			

APPLICATION CERTIFICATION AND SIGNATURE (must be signed in accordance with the requirements of Rule 1200-4-5-.05)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and title; print or type	Signature	Date
Eddie Cross	Eddie Cross	5-2-11

STATE USE ONLY

Received Date	Reviewer	EFO	T & E Aquatic Fauna	Tracking No.
RECEIVED MAY 18 2011	Impaired Receiving Stream	High Quality Water	NOC Date	RECEIVED

TN DIVISION OF Water Pollution Control

CLOSER PLAN

In the event this operation ceases to exist, the following will be done within 360 days:

- Any litter/compost currently in storage at the time of closure will be removed and spread on the farm or spread elsewhere according to my Nutrient Management Plan.
- All litter in houses will be removed and spread on the farm or spread elsewhere according to my Nutrient Management Plan.
- All land application of litter will be done at application rates calculated in the Nutrient Management Plan.
- The most current litter analysis will be provided to anyone removing litter from the farm.
- Any dead birds in the houses at the time of closure will be composted.

Eddie Cross 5-2-11

Eddie Cross Date

Addendum to Nutrient Management Plan:

By my signature below, I affirm that I have read, understand, and will comply with the following stipulations from Tennessee's CAFO rule (1200-4-5-.14) that apply to my CAFO operation.

1) All clean water (including rainfall) is diverted, as appropriate, from the production area.
2) All animals in confinement are prevented from coming in direct contact with waters of the state.
3) All chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
4) All sampling of soil and manure/litter is conducted according to protocols developed by UT Extension.
5) All records outlined in 1200-4-5-.14(16)d-f will be maintained and available on-site.
6) Any confinement buildings, waste/wastewater handling or treatment systems, lagoons, holding ponds, and any other agricultural waste containment/treatment structures constructed after April 13, 2006 are or will be located in accordance with NRCS Conservation Practice Standard 313.
7) Drystacks of manure or stockpiles of litter are always kept covered under roof or tarps.
8) An *Annual Report* will be written for my operation and submitted between January 1 and February 15 of each year. It will include all information required by rule [1200-4-5-.14(16)g].

Signature of CAFO Operator: _____ Date: 5-2-11

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AGRICULTURAL DIAGNOSTIC LABORATORY
UNIVERSITY OF ARKANSAS - FAYETTEVILLE
***MANURE FOR FERTILIZER ANALYSIS (report for AGRI-429)

Name:	EDDIE CROSS	Received in lab:	5/05/2011
Address:	313 ED CROSS RD.	Mailed:	5/10/2011
City:	CLEVELAND	State,Zip:	TN 37323
County:	BRADLEY (TN)	CK#:	

Lab. No.	M10766
Sample No.	1
Animal type	broilers
-age/lbs	none given
Bedding type	shavings/sawdust
Manure type	cake
Sample date	5/02/2011
Age of manure	59 wks
pH	6.5
EC(umhos/cm)	18140
% H20	26.88

-on dry basis-

Total %N	4.12
Total %P	1.29
Total %K	3.10
Total %Ca	1.55
NO3-N, mg/kg	35.0
NH4-N, mg/kg	5558

-on as-is basis-

Total %N	3.01
Total %P	0.94
Total %K	2.27
Total %Ca	1.13
NO3-N, mg/kg	25.6
NH4-N, mg/kg	4064

-lbs/ton on as-is basis-

N	60.2
P2O5	43.1
K2O	54.9
Ca	22.6
Total Carbon	
NO3-N	0.05
NH4-N	8.1

***all analyses performed on "as-is" basis/ "dry" basis is calculated from moisture content
*lbs/ton P2O5 = %Total P on "as-is" basis multiplied by 20*2.29
*lbs/ton K2O = %Total K on "as-is" basis multiplied by 20*1.2

N' 'ent Management Plan - Po' 'y

For Use by Farms

Exporting 100% of Litter Generated

1. Farmer/ Producer Information

Is **ALL** Litter Hauled Offsite*	Yes	No
**If the answer is "No," do not complete this form.*	*Please circle one*	

First Name:	Eddie
Last Name:	Cross
Farm/ Operation Name:	Cross Farms
Tennessee County:	Bradley

2. Volumes and Calculations

Poultry Type: Broiler | Pullet | Layer *(circle the type(s))*

Key		
A	**Number of birds per house per grow-out:**	46666.6
B	**Number of Houses:**	6
C	**Number of Grow-Outs / Year:**	6
D	**Average Weight of Litter Produced (lbs.)/ Bird / Grow-Out** *(see Table at right or use your farm average if known)*	2.4

The amount of litter removed from a poultry house will vary depending on the litter moisture content, type and size of birds, and length of time birds are kept in house. Below is a Table summarized from the NRCS Poultry System Calculator V10.0 to assist in placing the litter amount produced per bird and assist in litter calculations.

Type of Bird	Market/ Mature Weight (lbs)	Avg. Weight of Litter Produced (lbs)/ Bird / Grow-Out
Broilers	small (3.8 - 5 .8)	2.1
	large (5.9 - 7+)	2.4
Layer	8 - 12	8
Pullet	5.5	3

*Take **Bolded** Letters in **Key** Column Above and Below to Assist in Calculating Values Below*

Number of Birds per Grow-Out = A x B = 279999.6

Number of Birds Example: If A = 22,000 and B= 2 and C= 5.5 then:
22,000 X 2 = 44,000 number of birds

KEY

E **Number of Birds per Year** = A x B x C = 1679997.6

Number of Birds per Year Example: If A = 22,000 and B= 2 and C = 5.5 then:
22,000 x 2 x 5.5 =242,000 number of birds per year

Total Tons of Litter Produced per Year on the Farm = E x D / 2,000 = 2015.997 → 2016 T/yr

Tons of Litter Produced Example: If E = 242,000 and D = 2.1 lbs. then:
242,000 x 2.1 lbs = 508,200 lbs. / 2,000 = 254 Tons

Tons of Litter Exported from Farm / Year 2015.99712 → 2,016 T/yr

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3. Litter Handling and Storage

Litter Contents from Manure Analysis

Laboratory Name	House	Date of Analysis	Total N	P_2O_5[a]	K_2O[b]	Units
						lbs./Ton
						lbs./Ton
						lbs./Ton

I will get an annual manure analysis and provide the results to all parties which are given or purchase litter from my farm or operation.

_____

Signature / Date Signed

Mortality Management

Dead birds will be disposed of according to State and local laws in a way that does not adversely affect groundwater or create public health concern. All mortalities will be disposed of using:

Composting	Incineration	Other:
please circle one		

_____ ***initials***

Closure Plan

In the event that poultry production at this location ceases, the following will be done within 360 days:

- Any litter/ compost currently in storage at the time of closure will be removed and spread elsewhere according to my current NMP.
- All litter in houses will be removed and spread elsewhere according to my current NMP.
- The most current manure analysis performed by an accredited laboratory will be provided to anyone removing litter on my farm.
- Any dead birds in the houses at the time of closure will be disposed of according to my NMP.

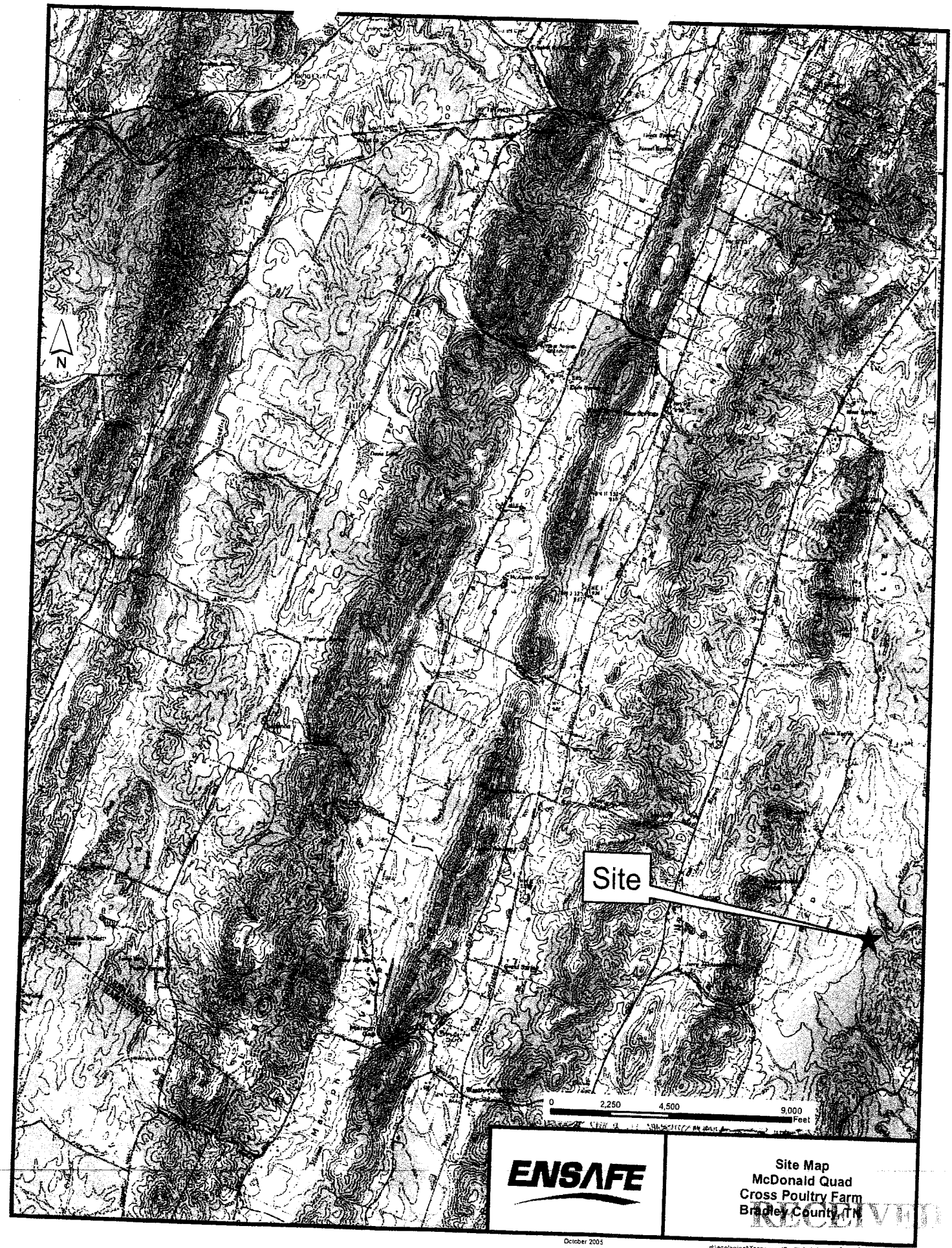
_____

Signature that I have read and agree to this Closure Plan / *Date signed*

Notes:
N = Nitrogen P_2O_5 = Phosphorus Oxide K_2O = Potassium Oxide

[a]If Phosphorus is expressed in analyses as Phosphorus (P), simply multiple P lbs. X 2.3 to convert to P_2O_5.

[b]If Potassium is expressed in analyses as Potassium (K), simply multiple K lbs. X 1.2 to convert to K_2O.



ENSAFE

Site Map
McDonald Quad
Cross Poultry Farm
Bradley County, TN

October 2005

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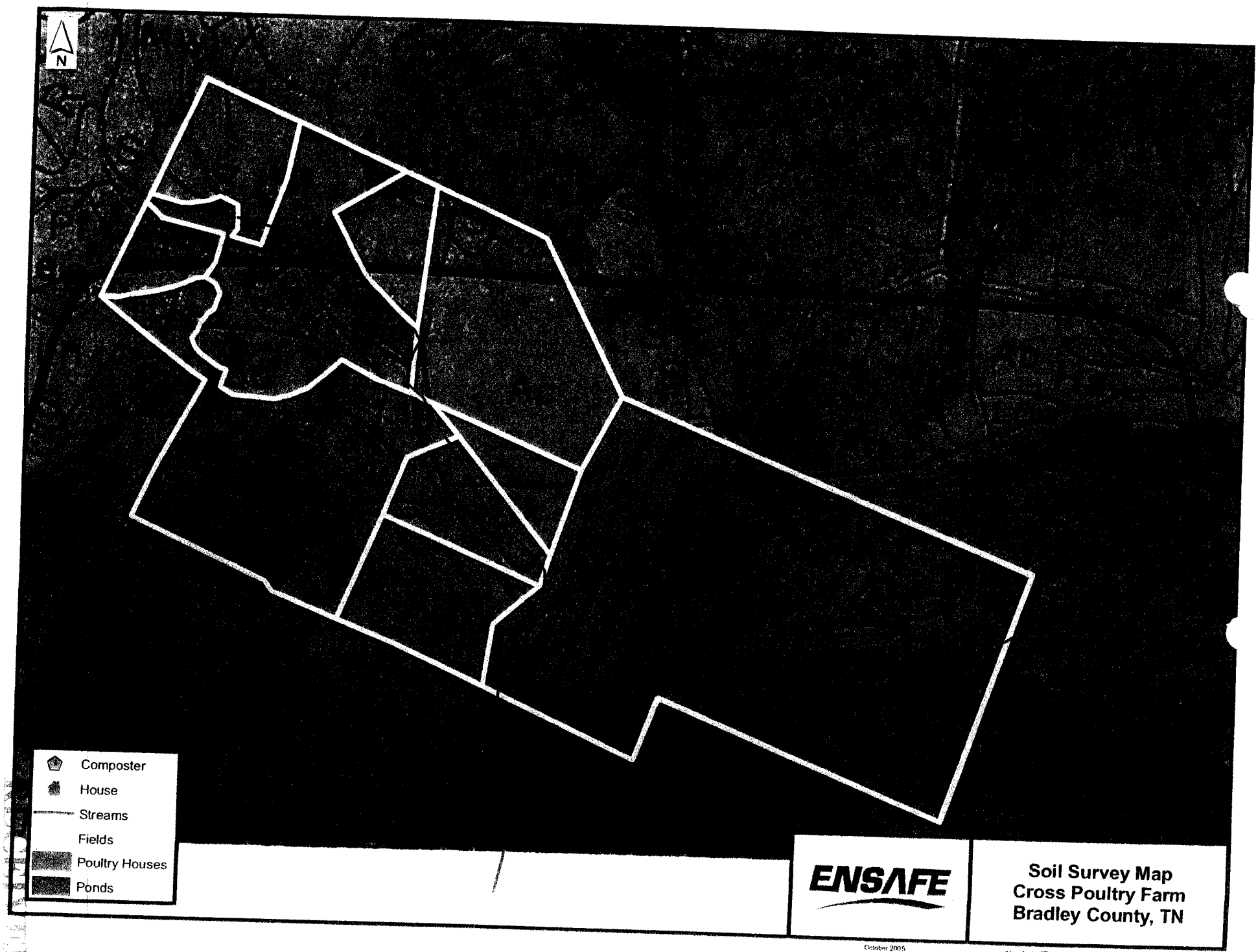
N
Composter
House
Streams
Fields
Poultry Houses
Ponds
ENSAFE
Soil Survey Map
Cross Poultry Farm
Bradley County, TN
October 2005
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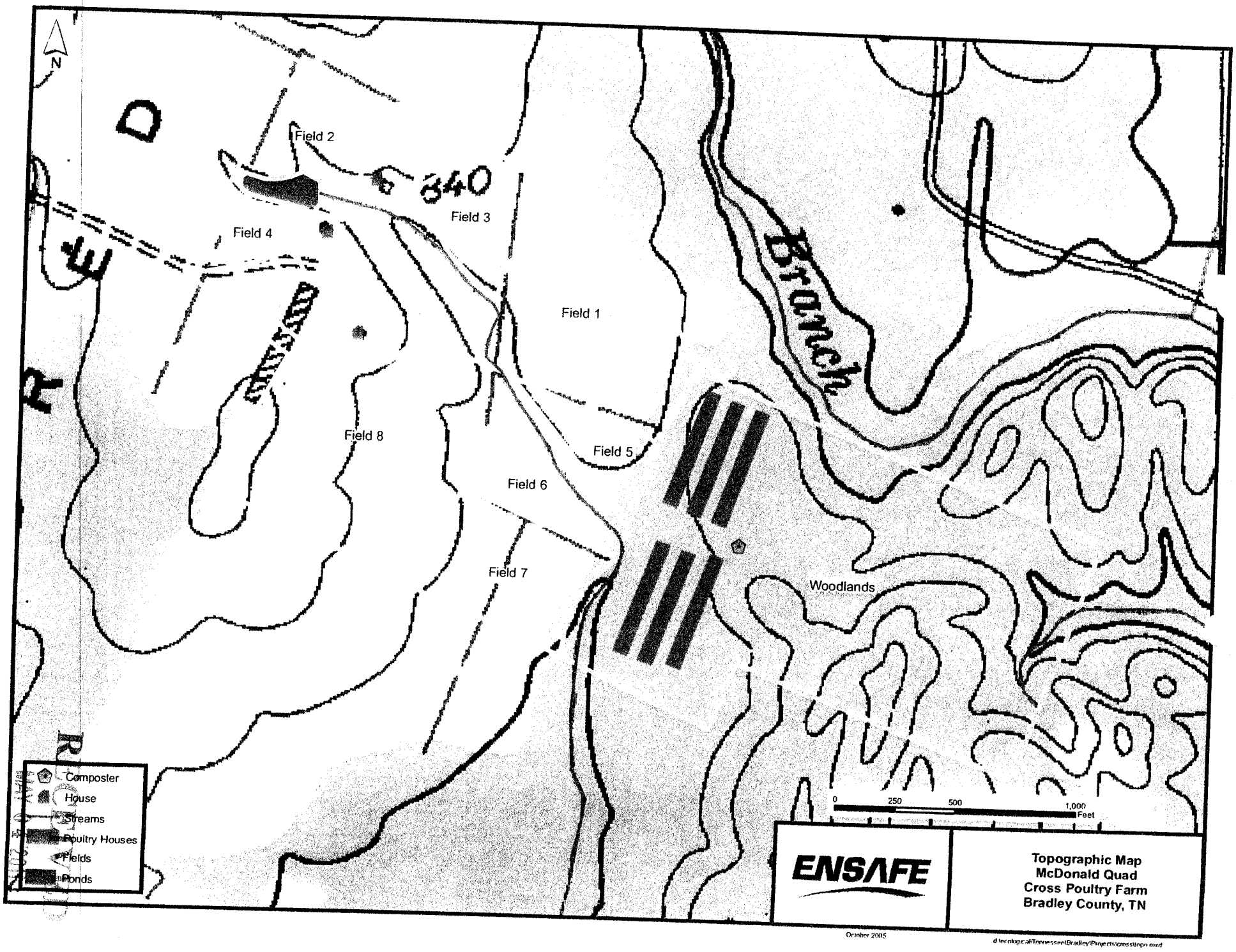
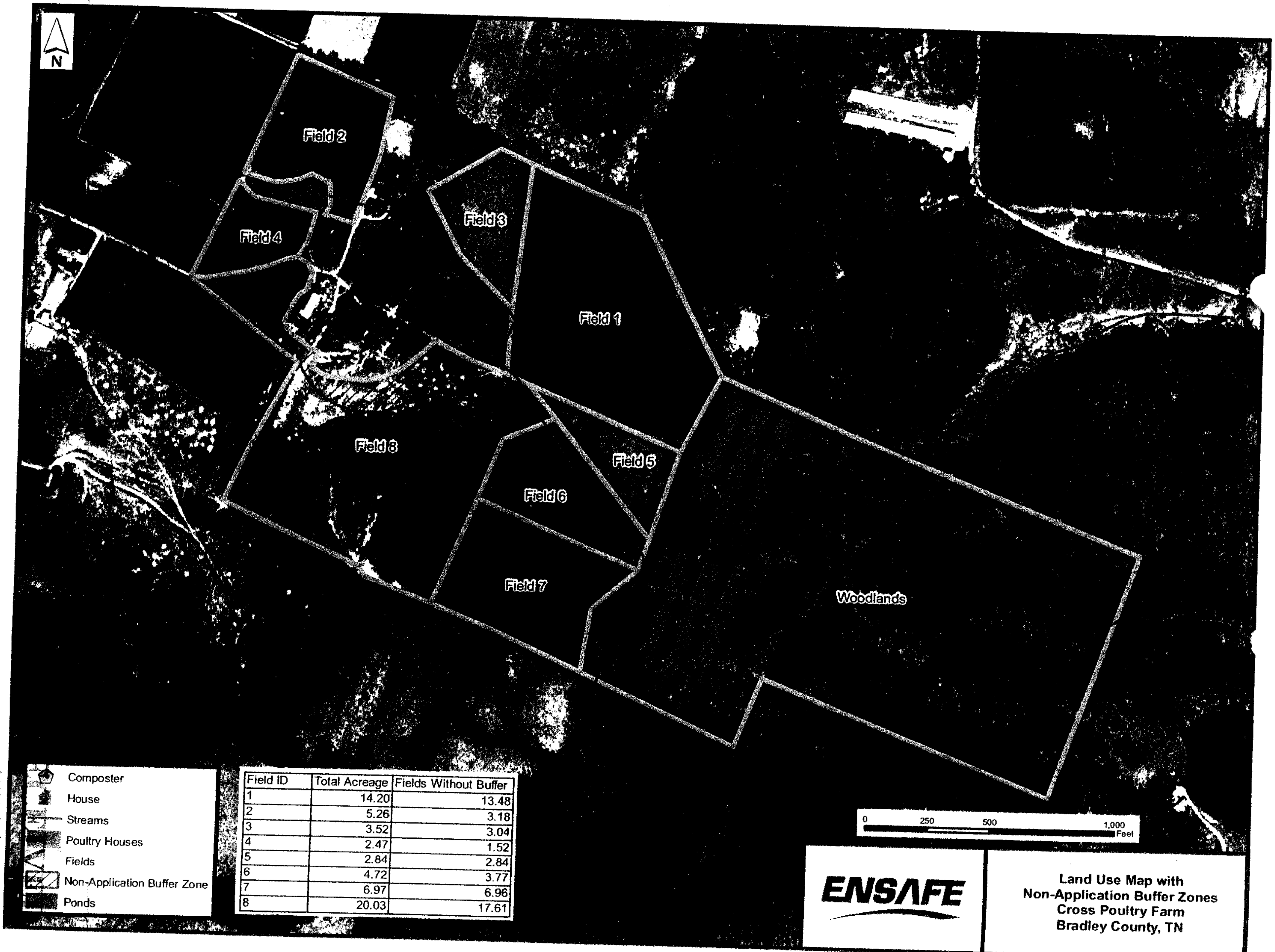

N
Field 2
Field 3
Field 4
Field 1
Field 8
Field 5
Field 6
Field 7
Woodlands
Branch
Composter
House
Streams
Poultry Houses
Fields
Ponds
0
250
500
1,000
Feet
ENSAFE
Topographic Map
McDonald Quad
Cross Poultry Farm
Bradley County, TN
October 2005



Field ID	Total Acreage	Fields Without Buffer
1	14.20	13.48
2	5.26	3.18
3	3.52	3.04
4	2.47	1.52
5	2.84	2.84
6	4.72	3.77
7	6.97	6.96
8	20.03	17.61